

IN THE DRAWINGS

Please replace Figure 2 with the “REPLACEMENT SHEET” submitted herewith.

REMARKS

Claims 1-14 were pending. However, for reasons indicated below, the Office only examined claims 1-3 and 11-14 on the merits.

Applicant is canceling claims 11-14 without prejudice or disclaimer. New claims 15-24 are added.

Claims 1 and 2 are substantially amended. Those amendments are related in part to the prior art rejection and are discussed in the relevant section below.

Claims 3-10 are amended to varying degrees, some only to amend the language "Method according to..." to "A method according to..." Other of the amendments are intended simply to use clearer language, *e.g.*, in claim 3. A number of claims are amended to remove multiple dependencies (whether proper or improper).

The terms "preferably" (in claims 4 -6) and "such as" (in claim 9) are deleted.

New claims 15 and 16 are directed to "a BAC library or a YAC library" which are embodiments of the artificial chromosome library that were carved out of prior claims 1 and 2.

Other embodiments which were recited using formally improper language ("preferably" and "such as") have also been carved out of their original claims (4, 5, 6 and 9) and placed into new, formally proper, dependent claims 17-24.

The amendments and new claims are supported in the specification as well as in the original claims. None of these amendments introduces new matter and entry of the amended and new claims is respectfully respected.

There remains no basis for the Office to refuse to examine claims 4-10 in view of the present amendments. Thus, Applicant requests the Examiner to enter this paper and examine claims 1-10 and 15-24 on the merits.

I. OBJECTION TO THE DRAWINGS

Originally filed Figure 2 was objected for allegedly being illegible. Applicant is submitting a replacement drawing for Fig. 2 which is believed to be legible and comply with the rules, rendering this objection moot.

II. FORMAL OBJECTIONS TO THE CLAIMS

A. Claims 1-10 were objected to because of the following reasons:

- (1) The phrase "steps (f-h)" recited in claim 1(i) was intended to be "steps (f)-(h)."
- (2) The phrase "[m]ethod according claim..." in each of claims 4-6 was intended to be "[m]ethod according to claim..."

B. Claim 4 was objected to because, as a multiple dependent claim, it must refer to other claims in the alternative only. The Office therefore chose not to examine claim 4 on the merits.

C. Claims 5-10 were objected to because they were multiply dependent and improperly depended from other multiply dependent claims. Here too, the Office refused to examine these claims on the merits.

Applicant's Response

The objected to phrases in claim 1(i) (a typographical error) and in claims 4-6, have been corrected. Claims 4-10 have been amended to remove all multiple dependencies, thereby removing the basis for the above objections. It is submitted that claims 4-10 are in proper form and should now be examined on the merits.

III. REJECTIONS UNDER 35 U.S.C. § 101

Claims 11-14 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter due to the term "Use"... (a common way to claim "methods" in many foreign jurisdictions).

The Action notes that claims 1-3 were not rejected under this statutory basis because the examiner interpreted at least steps (c)-(e) and (g) as being physical steps that achieve a physical transformation.

Applicant's Response

Claims 11-14 employing the non-statutory "use" language are now canceled. As discussed below, claims 1-3 have been amended so that all of the steps appearing therein are proper method steps so that any concern about § 101 has been put to rest. This ground for rejection is no longer applicable to any of the present claims and may be withdrawn.

IV. REJECTIONS UNDER 35 U.S.C. § 112/2nd Paragraph

Claims 1-3 and 11-14 were rejected as being indefinite for various reasons indicated below. Applicant's responses follow each ground of rejection.

A. The phrase "**such as**" in claim 1, step (c), allegedly renders the claim indefinite because it is unclear whether the limitations following the phrase -- BAC or YAC -- are part of the claimed invention.

Applicant has removed the “such as” language from claims 1, 2 and 9. New claims 15 and 16 have been added to cover the BAC and YAC library embodiments. New claim 24 recites the extra embodiment carved out of claim 9.

B. The use of the word “**respectively**” in claims 1 and 2 as it relates to “K and L” and “M and N” in the latter part of the claims is allegedly confusing

Applicant has amended the relevant section of these claims to avoid use of this word; these claims now explicitly set forth the options for the various forward and reverse AFLP primers in an unambiguous manner. To provide explicit antecedent basis for the forward and reverse primers, language reciting these primers has been introduced into claim 1, steps (b), (e) and (g), and into claim 2, steps (a), (d) and (f).

C. The phrase “an AFLP fragment identified in (b)” that appeared in claim 1(f) allegedly lacked sufficient antecedent basis, and Claim 1(b), (g) and (i) do not “identify” an AFLP fragment.

Applicant notes that their amendments discussed in Sec. B., above (to steps (b) and (g) of claim 1) have overcome any such indefiniteness have placed claim 1(i) in compliance with the statute.

D. Claims 11-14, which recite use of AFLP or AFLP primers, do not set forth any steps involved in the method/process.

Again, these claims have been canceled.

V. REJECTION UNDER 35 U.S.C. § 102

Claims 1-3 and 11-14 were rejected under 35 U.S.C. 102(b) as being anticipated by Klein *et al.*, *Genome Research* 10:789-807, 2000 (referred to hereinafter as “**Klein**”).

The Action restates the language of (prior) claim 1 and indicates that the (previous) indefiniteness of the claims (See Sec. IV, above) forced the Office to apply the art to the “best interpretation of the claims as written.” Applicant thanks the Examiner for doing so despite some of the possibly confusing language.

According to the Action, **Klein** discloses a method for using AFLP fingerprinting to link genetic markers with physical markers to generate a physical map. The method allegedly comprises providing a plurality of genetic markers including “AFLP fragments;” providing a BAC library of clones and generating a multitude of pools thereof; generating AFLP fingerprints for the pools and the clones thereof; identifying the pools and the clone containing the AFLP fragments, characterizing the AFLP fragments, and generating a contig comprising the individual clones corresponding to the individual AFLP markers, wherein the forward and reverse AFLP

primers used for AFLP-fingerprinting the pools and the clones are +3/+3 unique primer combinations. The Action cites to Figs. 2-6, page 793, the "Methods" section (pgs 802-806), and further alleges that the steps of the method are repeated for different markers.

Applicant's Response

Claims 1 and 2 have been amended to specify that $K+L > M+N$ (*i.e.*, $K+L$ is greater than $M+N$), thereby excluding the possibility of $K+L$ being equal to $M+N$. In the **Klein** disclosure, $K+L$ is equal to $M+N$ because **Klein** used the same AFLP primers in the steps that correspond to steps (b) and (e) of claim 1 and in a step corresponding to claim 1, step (g). The specification and original claims disclose a relationship in which $K+L$ was "greater than or equal to" $M+N$, which includes both possibilities. Moreover, specific disclosure of the "greater than" alternative (alone) is found at page 12, line 14, and in original claim 4: $(K + L)$ minus $(M + N)$ is at least 1, which can only mean that $(K + L)$ is greater than $(M + N)$ since each of K , L , M and N are integers from 0 to 10.

In accordance with this amendment, claim 3 has also been amended to state that the **$(K+L)$ minus $(M+N)$** is at least two, thereby adding to the possibility that the difference between these two sums can be 1, already included in the independent claims.

The present claim language therefore distinguishes amended claims 1 and 2 (and all their dependent claims) from the disclosure in the **Klein** reference noted above. It would therefore be proper to withdraw this ground for rejection.

VI. CONCLUSION

In conclusion, it is respectfully requested that the above amendments, remarks and requests be considered and entered. Applicant respectfully submits that all the present claims are novel over the cited art and therefore in condition for (further examination and) allowance, and respectfully requests early notice of such favorable action.

Respectfully submitted,
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